

[Name of Document] Abstract

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[Problem]

To improve processing quality by inhibiting the generation of a strong
5 electric field and high-density plasma, near a contact point between a support
part supporting a transmissive window and the transmissive window in a
plasma processing apparatus utilizing a microwave.

[Means for Solving the Problem]

In a plasma processing apparatus that processes a wafer W in a
10 process vessel 2 by plasma generated by the supply of a microwave, a
transmissive window 20 has, in a center area of its lower surface, a hanging
portion 21 made of the same material as a material of the transmissive
window 20. Between an outer peripheral surface 21a of the hanging portion
21 and a sidewall inner surface 5a continuing from a support part 6, a gap d is
15 formed, the gap d having a gap length of 0.5 to 10 mm, more preferably 0.5 to
5 mm. The generation of a strong electric field and plasma at the contact
point C is inhibited and an amount of sputtered particles, radicals, or the like
reaching the wafer W is also reduced.